

**Amendments to the Claims**

This listing of claims will replace all prior versions, and listings of claims in the application:

- 1           1. (Withdrawn) A method for detecting molecules, the method comprising:  
2           a) determining the electronic status of a semi-conductor;  
3           b) establishing electronic communication between the molecules and  
4 the semiconductor;  
5           c) subjecting the semi-conductor to energy influx;  
6           d) redetermining the electronic status of the semi-conductor.

Claims 2-27 (Canceled)

- 1           28. (Currently Amended) A method for manipulating biological material in vivo,  
2 the method comprising:  
3           a) covalently attaching a semi-conductor to a first biological moiety via a  
4 charge transfer intermediary to create a construct;  
5           b) inserting the construct into a living organism;  
6           c) allowing the construct to migrate to the biological material;  
7           d) creating a plurality of charges on the construct, wherein the size of the  
8           charges and distances between the charges cause the biological material  
9           to change in structure.

- 1           29. (Original) The method as recited in claim 28 wherein the biological material  
2 comprises molecules selected from the group consisting of nucleotides, nitrogenous  
3 heterocyclic bases, amino acids, and combinations thereof.

1           30. (Original) The method as recited in claim 28 wherein the charges are  
2 created by subjecting the construct to radiation.

1           31. (Currently Amended) The method as recited in claim 30 wherein the  
2 radiation has an energy ~~greater than~~ of approximately 1.6 eV.

1           32. (Currently Amended) The method as recited in claim 28 wherein the  
2 radiation has energy ranging from about 1.6 eV to ~~to~~ 3.2 eV.

1           33. (Previously Presented) The method as recited in claim 28 wherein the step  
2 of creating a plurality of charges further comprises subjecting the construct to radiation  
3 selected from the group consisting of white light, beta rays, ultra violet light, X-rays or  
4 gamma rays, alpha rays, gamma rays, and combinations thereof.

1           34. (Original) The method as recited in claim 28 wherein the biological material  
2 is nucleic acid and the construct changes the nucleic acid by cleaving it.

1           35. (Original) The method as recited in claim 34 wherein the cleavage occurs  
2 when the semiconductor accumulates electrons from the first biological moiety.

1           36. (Currently Amended) The method as recited in claim 28 wherein the  
2 semiconductor is a metal oxide selected from the group consisting of TiO<sub>2</sub>, ZrO<sub>2</sub>, VO<sub>2</sub>,  
3 MnO<sub>2</sub>, NiO, ZnO, CuO, FeO<sub>4</sub> Fe<sub>3</sub>O<sub>4</sub> and combinations thereof.

1           37. (Withdrawn) The method as recited in 1 wherein the biological molecule  
2 is nucleic acid having base sequences interspersed with guanine.

1           38. (Withdrawn) The method as recited in claim 30 wherein the source of  
2 radiation is a radioactive isotope selected from the group consisting of phosphorus-32,  
3 iodine- 123, iodine-131, sulfur-35, selenium-75, technetium-99, yttrium-90 and combina-  
4 tions thereof.

1           39. (Withdrawn) The method as recited in claim 37 wherein the radioactive  
2 isotope is covalently attached to the semi-conductor.

1           40. (Withdrawn) The method as recited in claim 40 wherein the source of the  
2 radiation is phosphorus-32.

1           41. (New) The method as recited in claim 30 wherein the radiation is  
2 approximately 2 eV.